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ABSTRACT

Two easily administered and scored research instruments for the study of person-environment congruency theory in the college classroom are presented. The need for such a theory-integrated approach is seen in recent research that indicates that the "common sense" approach to teacher evaluation, i.e. simply asking students, teachers, and administrators what teacher/teaching characteristics are necessary for good instruction, may be in error. The person-environment congruency model proposes that an individual's satisfaction is a function of the congruency between his needs and "press" characteristics of the environment. This model has been applied in the area of worker need satisfaction. Fifty-four male and female community college students enrolled in a general psychology course completed a 21-item student needs assessment questionnaire during the fifth week of an eleven-week spring quarter term. One week later students completed a 21-item environmental reinforcers description questionnaire. Thus, a teacher examining the various scales, can determine where he may wish to alter the environment over which he exerts control or discuss with the students their needs for further understanding. The scales are outlined and a bibliography is included in the document. (ME)

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Person-Environment Instrumentation for Student Ratings of College Teaching[1]

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Footnote

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Abstract

Two easily administered and scored research instruments for the study of person-environment congruency theory in the college classroom were presented. Administration and scoring procedures were illustrated for the person-environment yoked instruments. First, 54 general psychology students completed the person (needs) measurement instrument, second, one week later, these same students plus 4 more of their classmates completed the environment (reinforcers) measurement instrument. Congruence was measured as the correspondence between need/reinforcer counterpart statements of the two instruments. 21 mean scale values for each of the instruments and their difference between instrument scores were illustrated. It was suggested person-environment instrumentation might theory-integrate student learning and adjustment with professor teaching efforts, that person-environment faculty evaluation instruments would best provide ipsative measurement as regards the professor's development, and that the interpretation of overall congruency scores may be difficult, and may be inappropriate.

Person-Environment Instrumenation for Student Ratings of College Teaching[1]

There has been continued uneasiness in higher education with presently conceived student classroom satisfaction measurement schemes, e.g., Dennis (1976), and Ware and Williams (1975). The Instructional Development and Effectiveness Assessment (IDEA) program of the Center for Faculty Evaluation and Development, Kansas State University, has probably been the most noteworthy attempt at dealing with the complex problems of faculty evaluation and development to date. While IDEA type programs certainly measure student satisfaction as traditionally conceived, i.e., as having evolved essentially from the seminal Rating Scale for Instructors devised by Brandenburg and Remmers (1927), they do not provide other than a common sense argument[2] that the particular definiton of satisfaction involved is related to student learning and adjustment, and to the improvement of instruction. And, research evidence now exists that indicates that the common sense argument used might possibly have been in error (Williams and Ware, 1976).

Present student ratings programs, including the IDEA program's student satisfaction assessment component, have had the major shortcoming that they have not been based upon an integrating theory model of student learning and adjustment in their relation to teaching behavior. This theory related shortcoming has precluded

Footnote

[2]The common sense argument concerning what should constitute student satisfaction with instruction (and therefore, serve as one basis for faculty development strategies) stems from the very earliest attempts at college level faculty evaluation and improvement, viz., Report of the Better-Yet Committee, AAUP Bulletin, 1926. Essentially, the common sense argument suggests that faculty evaluation and improvement dimensions should be determined in a purely face validity manner, i.e., by simply asking students, professors, and administrators what teacher or teaching characteristics make for good instruction. While this might be a very democratic process, and should be applauded for that, it may not lead to an understanding of student satisfaction that is related to student learning or to teaching improvement.

the development of systematic criterion validation, or concept validation (sometimes referred to as construct validation) strategies for student ratings programs.

What has been sorely needed is a theory based model of student classroom satisfaction. The value of an integrating theoretical model for faculty evaluation and development can be described in at least three ways: (a) Within faculty evaluation concerns, the variables of student adjustment and student learning (greatly overlapping variables within many person-centered theory models, e.g., that of Abraham Maslow (1943); and that of Joseph Katz (1972) in his Developmental Theory of Student Learning) might be identified in thier relation to teaching efforts of professors within faculty development concerns. (b) Evaluation variables in relation to teaching development variables could systematically be studied; hypotheses relating evaluation and development variables could be tested; concept level validity for evaluation and development might be achieved. (c) Student evaluation variables and faculty development variables could be systematically studied in relation to other institutional activities and parameters related to learning and instruction, e.g., counseling, career decisions of students, and student attrition (campus, classroom, or program).

One such integrating theory model, the person-environment congruency model as originated within the personality theory of Henry A.Murray (1938), proposed that an individual's satisfaction is a function of the congruency between his needs and "press"

characteristics of the environment. The person-environment congruency model of satisfaction has been applied in the area of worker need satisfaction in work environments, e.g., generally by Herzberg, Mauser, and Synderman (1959), and explicitly by Dawis, Lofquist, and Weiss (1968) within the theory of work adjustment developed by the Minnesota Studies in Vocational Rehabilitation project. And, the congruency model has been applied to the study of student need satisfaction in college environments, e.g., Pace and Stern (1958)/ Astin and Holland (1961), Pervin (1967), Stern (1970), and Morstain (1977).

Betz, Menne, and Klingensmith (1970), Starr, Betz, and Menne (1971) and Starr, Betz, and Menne (1972) development instrumentation and systematically studied the variable of student need satisfaction in the college campus environment within the congruency theory model framework as adapted from congruency research on employee satisfaction in business and industry, viz., from Weiss, Dawis, England, & Lofquist (1967). Betz (1975) further adapted theory of work adjustment (Dawis, et al 1968) instrumentation to the measurement of student needs in their relationship to need-counterpart reinforcer characteristics of the college campus environment. The Betz adaptations of theory of work adjustment instrumentation measure person-environment congruence through correspondence between 21 student need dimension, and 21 need-counterpart environmental reinforcers.

Doyle (1975, p. 70), in citing the work of Betz, et al (1970),

suggested the extension of the person-environment congruence model to the study of student satisfaction in the college classroom in that it might lead to more meaningful student evaluations of instruction in relation to student learning. Vandervert (1977) developed college classroom versions of the Betz needs, and environmental reinforcer instruments. Vandervert concluded that congruency between student needs, and environmental reinforcers could reasonably represent student classroom satisfaction within a person-environment congruency framework.

However, the Vandervert classroom instruments: the Minnesota Importance Questionnaire-College Classroom Form (MIQ-CCF) which measures student needs, and the Minnesota Environment Description Questionnaire-College Classroom Form (MEDQ-CCF) which measures environmental reinforcers, are cumbersome to administer, and scoring is extremely complicated.

Therefore, the purpose of the present study was threefold: (a) to provide easily administered research instruments for the study of person-environment congruency theory in the college classroom (and possibly for the classroom evaluation of college teachers), (b) to provide a basis for the study of reliabilities and validities of the instruments in various instructional settings, and (c) to illustrate a possible, simplified scoring technique for the instruments.

Method

Revision of Instruments: The 21 student needs and 21 environmental reinforcers dimension statements of the original MIQ-CCF, and MEDQ-CCF respectively appeared in multiple rank orders

questionnaire formats. A description and discussion of the multiple rank orders method has been provided by Gulliksen and Tucker (1961).

A simplified version of Vandervert's instrumentation for the measurement of person-environment congruency in the college classroom consists of two questionnaires: (a) A classroom importance questionnaire (CIQ) measures 21 student classroom needs, and (b) A classroom environment description questionnaire (CEDQ) measures 21 need-counterpart classroom environmental reinforcers. Each need, and each reinforcer questionnaire statement is rated by students on a scale from one to five. On the CIQ a rating of "1" indicates the statement is important to the student's conception of an ideal class in the course in question--a rating of "5" indicates the statement is not important. On the CEDQ a rating of "1" indicates the statement is descriptive of the class in question in the view of the student--a rating of "5" indicates the statement is not descriptive.

The questionnaire items and their respective need (person), and reinforcer (environment) scales are as follows:

Measurement of dimensions of student as a person (student needs)

In my ideal class:	Scale:
1. I could make use of my individual abilities	Ability Utilization
2. I could get a feeling of accomplishment,	Achievement
3. I could feel actively involved all of the time	Activity
4. I would be able to improve my standing	Advancement
5. I could direct the activities of other students	Authority

6.	I would receive fair treatment by the way the class plan is put into practice.	Class Policies
7.	My grades would be commensurate with the effort expended.	Compensation
8.	Other students would be easy to make friends with.	Fellow Students
9.	I could try out some of my own ideas.	Creativity
10.	I could work independently of others.	Independence
11.	I could do things that are reconciled with my beliefs (Not that the class would necessarily go along with my beliefs, but that they would at least be given consideration.)	Values
12.	I could get recognition for the work I do.	Recognition
13.	I could use my own judgment.	Responsibility
14.	I could feel that the class seemed relevant.	Relevancy
15.	I could be helpful to other students.	Helping-Nurturance
16.	I could be "somebody" in the class.	Esteem-Status
17.	I could get individual help for the instructor.	Individual Teaching
18.	I would receive special explanations on hard problems or difficult concepts.	Teaching Tactics
19.	I could do different exercises from time to time.	Variety
20.	I would have good physical learning conditions.	Learning Conditions
21.	I could plan my work with little help.	Autonomy

Measurement of dimensions of classroom as an environment (classroom reinforcers)

Students in this class:	Scale:
1. Make use of their abilities	Ability Utilization
2. Get a feelng of accomplishment	Achievement

3.	Are able to feel actively involved all of the time.	Activity
4.	Have a chance to improve their standing	Advancement
5.	Have a chance to direct the activities of other students	Authority
6.	Receive fair treatment by the way the class plan is put into practice	Class Policies
7.	Receive grades commensurate with effort expended.	Compensation
8.	Have other students who are easy to make friends with	Fellow Students
9.	Try out some of their own ideas.	Creativity
10.	Do work independently of others.	Independence
11.	Do things that are reconciled with their beliefs. (Not that the class necessarily goes along with their beliefs, but that their beiefs are at least given consideration.)	Values
12.	Receive recognition for the work they do.	Recognition
13.	Have a chance to use their own judgment.	Responsibility
14.	Feel that this class seems relevant for their future.	Relevance
15.	Are helpful to students.	Helping-Nurturnace
16.	Can be "somebody"	Esteem-Status
17.	Get the individual help they need from the instructor.	Individual Teaching
18.	Receive special explanations of hard problems or difficult concepts.	Teaching Tactics
19.	Do different types of exercises from time to time.	Variety
20.	Have good physical learning conditions.	Learning Conditions
21.	Plan their work with little help.	Autonomy

Scoring Person-Environment Congruency for the Classroom

Students completed the CIQ prior to completing the CEDQ. The amount of time allowed to elapse between administrations of the two questionnaires is probably not crucial (although this variable is in need of study). In my own classes, one week was allowed to elapse between administrations. This practice seemed desirable to help insure some independence of the response profiles for the two questionnaires.

Mean ratings for each scale were obtained for each questionnaire. (Means are desirable, if one is wiling to put that much psychometric faith in this particular scaling technique, because standard deviations can then be determined for each scale to indicate meaningful dispersions of student attitudes.) The mean values for each scale were then subtracted between the two questionnaires. Twenty-one differences scores were thusly obtained. For each of the 21 difference scores the sign of the difference score was ignored to remove possible negative values. Finally, the 21 absolute value difference scores were summed. The sum of the difference scores supplied a measure of person-environment congruency, student classroom adjustment, or student satisfaction. Congruency values can be thought of as constituting a student classroom satisfaction index.

Subjects and Procedure The subjects for this study were 58 combined male and female community college students enrolled in a general psychology course. Fifty-four of these students completed the revised student needs assessment questionnaire (CIQ) during the fifth week of an elevent week Spring quarter term. These same 54 students plus

an additional four of their classmates from the same geneeral psychology course completed the revised environmental reinforcers description questionnaire (CEDQ) one week later.

Results

An illustration of the scoring outcomes of the CIQ and CEDQ administered to the General Psychology sample is presented in Table I. Each of the differenoe values was obtained by subtracting the CEDQ scale mean from its CIQ scale counterpart mean and treating the result cs an absolute value. The difference values were then summed to obtain a level of person-environment congruency or student classroom satisfaction value. In this particular case the student classroom satisfaction value was 8.71.

It should be noted that the difference values came about in two ways: (a) For certain of the scales, e.g., Ability Utilization, the difference resulted from the CIQ mean scale value being smaller than that for the CEDQ, and (b) for other scales, e.g., Advancement the mean CIQ scale value was the larger of the two values. Which of these two situations produced the difference value might be an important consideration, depending upon how student "satisfaction" is conceived, in evaluating congruence for the scales.

Discussion

The CIQ and CEDQ instruments offer a first-step for the possibility of simple, widespread investigation and testing of person-environment theory in the college classroom. Especially ripe for

Table 1

Mean Scale Values for Classroom Importance Questionnaire and Classroom Environment Description Questionnaire Counterpart Items and Their Absolute Difference Values

	Scale	Mean CIQ Scale Values[a]	Mean CEDQ Scale Values[b]	Difference Values
1.	Ability Utilization	2.20	2.71	.51
2.	Achievement	1.53	2.25	.72
3.	Activity	2.67	2.78	.11
4.	Advancement	2.06	1.81	.25
5.	Authority	4.02	3.20	.82
6.	Class Policies	2.22	1.59	.63
7.	Compensation	1.98	1.64	.34
8.	Fellow Students	2.53	2.02	.51
9.	Creativity	2.54	2.76	.22
10.	Independence	2.62	2.31	.31
11.	Values	2.91	2.44	.47
12.	Recognition	2.64	2.19	.45
13.	Responsibility	2.02	2.00	.02
14.	Relevancy	1.82	1.82	.00
15.	Helping-Nurturance	2.55	2.39	.16
16.	Esteem-Status	3.24	2.40	.84
17.	Individual Teaching	2.11	1.29	.82
18.	Teaching Tactics	1.89	1.46	.43
19.	Variety	2.56	1.86	.70
20.	Learning Conditions	2.16	2.15	.01
21.	Autonomy	2.68	2.28	.40

[a]Scores 1 thru 5 indicated important thru not important respectively.

[b]Scores 1 thru 5 indicated descriptive thru not descriptive respectively.

testing within the context of the college classroom are instrument reliabilities and validities within various instructional settings, and the propositions of the theory of work adjustment (Dawis et al., 1968). The person-environment instruments present the possibility of theory-integrating learning and adjustment aspects of the "person" (the student in this case), with the "environment" (teaching efforts of the professor). The significance of this theory-integrating is that it cohesively yokes faculty evaluation elements and efforts to certain faculty development elements and efforts.

While normative data for the CIQ and CEDQ could be fascinating research grist, and while the instruments could form the basis for institution-wide theory testing programs, the production of normative data or standards would not be necessary for a functioning faculty evaluation/development program. Since person-environment analysis and adjustment decisions need only involve each uniquely constituted collection of students (a class) in its relation to an also uniquely defined and constituted set of professor efforts for that class, each classroom constitutes a population, and faculty evaluation and development may be thought of purely ipsatively.

In evaluating the outcomes for the various needs (CIQ) and reinforcers (CEDQ) scales presented in Table 1, of primary interest are the degrees of congruency (expressed as difference scores) for each of the scales. The meaning of the difference scores is, in one sense, quite clear. The professor may examine the scales individually to determine where he may wish to alter the environment over which he exerts control. Or, he may wish to discuss with the students

their needs for further understanding (perhaps for their edification as well as his own). However, if one wishes to determine an overall congruency value by adding the various difference scores, interpretation may become quite unclear. A definite ambiguity in total congruency estimates arises from the fact that scale difference values may result from needs scale values being either less than or greater than reinforcer scale values. Whether being a given distance either on the positive or negative side of student needs in relation to the delivered reinforcers is equitable is only clear in relation to what one means by satisfaction. Is the professor who over reinforces a need to the same degree not congruent with the student's need as one who under reinforces the need? Also, it may be altogether inappropriate within the person-environment model to even attempt to determine an overall summed congruency between student needs and classroom references. An assumption of equivalent value for each scale dimension for each student in each instructional setting is probably not sound. The answers to these questions are certainly important ones but would go beyond the stated purposes of this paper.

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